Designing a Computer Curriculum for Psychiatric Residency Training

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Structuring a computer curriculum in a residency training program is a task that requires teaching the latest sophisticated technologies in the simplest way. Residents come to programs with varying levels of computer literacy and all need to be brought up to speed simultaneously.

INTRODUCTION

Keeping psychiatric residents computer literate in an age of rapid computerization of medicine is a task that requires integration of many aspects of medicine and a knowledge of the latest in computer technology. How does one design a computer curriculum to take these trainees from the absolute basics to the "state-of-the-art"?

General Principles:

1. Never assume anyone knows anything. You can never be too basic. Even if you have a few sophisticated or knowledgeable people in the class, people generally learn bits and pieces of things and may know well the advanced concepts without knowing the more simple ideas. For example, one may know how to perform advanced features in word processing, but not know how to copy or format a disk.
2. In each session, go from the basic to the complex at the speed that the class will allow. Start with what is familiar and work toward what is new or unfamiliar. Beware not to lose the novices with technical jargon or allow the more advanced to monopolize the session with technical questions.

In devising a curriculum, computer classes are called Levels and generally there are a minimum of four to six sessions per academic year devoted to computers. All levels build on previous knowledge.

Level One

Generally begin with a show and tell. Computer parts are brought into class and demonstrated, e.g. a motherboard, modems, floppy disk. Pass them around to examine them closely. Open a computer case to show and identify the various components that are important to a computer, describe their purpose and how they interact with each other. Trouble shooting problems that one encounters at the hardware level is an important topic to discuss. Explain what software is, how it is different from hardware and what an operating system does and the types of software programs that are currently available.

Level Two

Expand on level one by elaborating on concepts of hardware such as multimedia, sound, video and the necessary software components in these same concepts. Discuss connections between computers and the outside world. Demonstrate some of these connections, start with a simple modem call into the local university library. Describe the hardware - software integration necessary to accomplish this.

Level Three

Show a more detailed dial-up Medline search and connection to the Internet. Discuss the popular software packages available commercially, e.g. word processing, database, etc. and what each one does. Make the discussion especially specific to how these can assist the resident in their daily professional life. Include demonstrations of creating a document with a word processor and creating a database with a database program.

Level Four

Discussion and demonstration of programs that are specific to Medicine and Psychiatry. Overview of clinical pharmacology software, diagnostic programs, medical review programs and what the field of Medical Informatics studies. At level four we begin to also discuss the general idea of conducting research in medicine and psychiatry and how the computer assists in research. We discuss programs to assist in data analysis as well as on-line research methodology.

References

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